

A few years ago another type of travelling-grate stoker came on the market, which possessed several new features. The important one was that it used a forced draught and introduced the draught on the compartment method " (fig. 4).* This system is as follows: at the point where the fuel enters the furnace, the draught coming in contact with it is practically negligible, but by the time the fuel has travelled 18 in. into the furnace, the full pressure of the forced draught, amounting to perhaps $\frac{1}{2}$ in. to 1 in. water gauge, is brought to bear. This is continued for 3 or 4 ft., and from that point to the rear end of the furnace, which may have a total length of

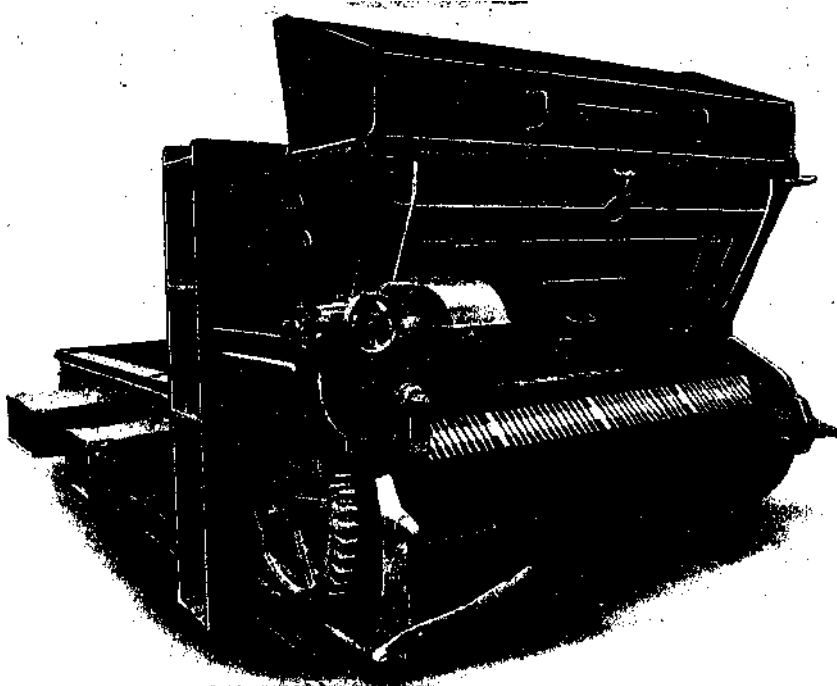


Fig. 5 —Compartment-type Travelling Grate

14 ft., the forced draught is gradually cut off, so that for the last 2 ft. or so no air is passing through the grate. This arrangement gives the clinker time to cool down (before it is dumped down to the ash chute), although a violent stream of cold air is not flowing over it.

The boilers operating under these conditions are supplied with fans at the rear end of the boiler, which induce a draught through the boiler, as well as with fans which provide the forced draught. The net result is that the pressure in the furnace is kept at no more than $\frac{1}{4}$ in. below atmospheric pressure, i.e. $\frac{1}{4}$ in. water-gauge induction. This system is

sometimes
spoken of as the " balanced-draught system ", the zero
pressure (atmos-
pheric pressure) occurring in the furnace chamber. It
will be seen that

* This grate is made by the Underfeed Stoker Company,
Limited.